

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>Serial No.:</b>	10/802,014	<b>First Named Inventor:</b>	Razich Roufoogaran
<b>Docket No.:</b>	BP3274	<b>Art Unit:</b>	2618
<b>Filed:</b>	03/16/2004	<b>Examiner:</b>	Pablo N. Tran
<b>Title:</b>	Radio Front End and Applications Thereof		

---

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

---

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

It is respectfully requested that a review be made of the final rejection mailed July 18, 2007 (Final Office Action) prior to filing of the Appeal Brief. This request is being filed simultaneously with a Notice of Appeal. No amendments are filed with this request. Applicant believes that the rejections in the Final Office Action are clearly not proper and are without basis because there is a clear deficiency in the rejections.

**Claim Rejections under 35 U.S.C. § 112**

The Final Office Action rejected claims 1 and 16 under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention due to the phrase, “impedance at the first winding is substantially similar in the transmit mode and in the receive mode.” In paragraph 6 of the Final Office Action, it states that the claimed limitation renders the claim indefinite because the Applicant needs to substantiate that the impedance is substantially similar in value or substantially similar in configuration/arrangement.

This rejection is clearly erroneous because the claim meets all the requirements of 35 U.S.C. 112. “Determining whether a claim is definite requires an analysis of ‘whether one skilled in the art would understand the bounds of the claim when read in light of the specification . . . . If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more.’” *Personalized Media Communications, LLC v. U.S. Int’l Trade Comm’n*, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998) (citing *Miles*

*Lab., Inc. v. Shandon, Inc.*, 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993) and finding that term digital detector is definite because the written description of the specification was sufficient to inform one skilled in the art of the meaning of the claim language). The phrase “impedance at the first winding is substantially similar in the transmit mode and in the receive mode” is clearly described in the specification. For example, *inter alia*, the specification at page 10, lines 5 through 11 and page 10, lines 29 through page 11, line 7 clearly describes the same terms in the claims 1 and 6. Thus, a person of skill in the art would clearly be able to understand the claim language when read in light of the specification.

Furthermore, as stated in the previous response filed on April 12, 2007, the word impedance is a term well known in the art to mean a measure of the response of an electric circuit to an alternating current, which is measured in ohms. The current is opposed by the capacitance and inductance of the circuit in addition to the resistance. The total opposition to the current flow is the impedance, which is given by a ratio of the voltage to the current in the circuit. [*The New Penguin Dictionary of Electronics*, Penguin Books, 1982, pp 231.]

#### Claim Rejections under 35 U.S.C. § 103

The Final Office Action rejected claims 1, 6, 16 and 21 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 7,065,327 to Macnally et al. (the Macnally reference) in view of U.S. Patent No. 6,999,743 to Sabouri et al. (the Sabouri reference). However, there are clear errors in the rejection in that neither the Macnally reference nor the Sabouri reference, either alone or in combination, disclose or suggest the requirements of the claims. As such, a prima facie case of obviousness has not been made.

#### Independent Claim 1 and dependent claim 6

The Office Action has failed to provide a prima facie case of obviousness for independent claim 1 because it has not shown that the cited references disclose or suggests the element, *inter alia*, of claim 1 of, “an adjustable load operably coupled to the second winding, wherein the adjustable load provides a first impedance based on a first impedance selection signal when the radio front end is in a transmit mode and provides a second impedance based on a second impedance selection signal when the radio front end is in a receive mode such that impedance at the first winding is substantially similar in the transmit mode and in the receive mode.”

With respect to the Macnally reference, it actually teaches away from the present invention. The Macnally reference merely discloses at Column 5, lines 11 through 14 that the “Antenna Interface” in Figure 1 includes, “an ISM band filter 112, a balun 114, an RF matching network 116 . . .”. The Macnally reference nowhere discloses an adjustable load coupled to the second winding or any type of impedance selection signal. In fact, it specifically states at Column 6, lines 51 through 56 that the LNA has a first impedance transformation network, seen in Figure 2, for receiving a signal while the power amplifier has a singly matched network associated with it for transmission of a signal, as seen in Figure 12. Because the Macnally reference teaches that the PA and LNA have different associated impedance networks for transmission and reception of a signal that are not adjustable and without any type of selection signal, it teaches away from and nowhere discloses the element, *inter alia*, of claim 1 of, “an adjustable load operably coupled to the second winding, wherein the adjustable load provides a first impedance based on a first impedance selection signal when the radio front end is in a transmit mode and provides a second impedance based on a second impedance selection signal when the radio front end is in a receive mode such that impedance at the first winding is substantially similar in the transmit mode and in the receive mode.” The Final Office Action agrees with this conclusion on page 3, last paragraph to first paragraph on page 4.

With respect to the Sabouri reference, it fails to add to the teachings of the Macnally reference. The Final Office Action states that Sabouri teaches “such matching network configuration.” However, the Sabouri reference teaches away from the embodiment in claim 1. The Sabouri reference discloses a full duplex line interface that includes a transmit path and a receive path, wherein the line interface transmits and receives signals concurrently. As shown in Figure 1, the transmission path includes a transmit amplifier 16 with the output of the amplifier 16 serially passed through a pair of matching impedances 20 (each  $Z_M/2$ ) , as described at column 2, lines 18 through 27. The receive path includes a second filter 30 that is connected across the matching impedances 20, as described at column 2, lines 32 through 35. As stated at column 2, lines 51 through 53, “While the matching impedance manifests itself significantly larger to the received signal path, it appears with its actual value for the transmit signal.” The Sabouri reference thus discloses different impedance for the received signal path and for the transmit signal and nowhere discloses that the matching impedances 20 are adjustable loads or any type of impedance selection signal. Because the Sabouri reference teaches that the transmit and receive paths have different associated impedances for transmission and reception of a signal

that are not adjustable and without any type of selection signal, it teaches away from and nowhere discloses the element, *inter alia*, of claim 1 of, “an adjustable load operably coupled to the second winding, wherein the adjustable load provides a first impedance based on a first impedance selection signal when the radio front end is in a transmit mode and provides a second impedance based on a second impedance selection signal when the radio front end is in a receive mode such that impedance at the first winding is substantially similar in the transmit mode and in the receive mode.”

Finally, the Office Action has not shown how the combination of the Macnally and Sabouri reference suggest the claimed requirements. In fact, the combination teaches away from the claimed requirements by teaching different impedance networks and values for transmission and reception of signals and no description of an adjustable load or any type of impedance selection signal associated with an adjustable load such that impedance is substantially similar in the transmit mode and in the receive mode. When evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. In *re Fine*, 873 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Since the Office Action has failed to show how the Macnally reference and Sabouri reference teach or suggest all limitations of claim 1 or any of the claimed limitations of dependent claim 6, a *prima facie* case of obviousness has not been made.

Independent Claim 16 and dependent claim 21

The Office Action has failed to provide a *prima facie* case of obviousness for independent claim 16 because it has not shown that the cited references disclose or suggest the element, *inter alia*, of claim 16 of, “a radio front end includes . . . an adjustable load operably coupled to the second winding, wherein the adjustable load provides a first impedance based on a first impedance selection signal when the radio front end is in a transmit mode and provides a second impedance based on a second impedance selection signal when the radio front end is in a receive mode such that impedance at the first winding is substantially similar in the transmit mode and in the receive mode.”

As stated above with respect to claim 1, with respect to the Macnally reference, it actually teaches away from the present invention. The Macnally reference specifically states at Column 6, lines 51 through 56 that the LNA has a first impedance transformation network, seen in Figure 2, for receiving a signal while the power amplifier has a singly matched network associated with it for transmission of a signal, as seen in Figure 12. Because the Macnally

reference teaches that the PA and LNA have different associated impedance networks for transmission and reception of a signal that are not adjustable and without any type of selection signal, it teaches away from and nowhere discloses the elements of claim 16.

With respect to the Sabouri reference, it fails to add to the teachings of the Macnally reference. As stated in the Sabouri reference at column 2, lines 51 through 53, “While the matching impedance manifests itself significantly larger to the received signal path, it appears with its actual value for the transmit signal.” The Sabouri reference thus discloses different impedance for the received signal path and for the transmit signal path and nowhere discloses that the matching impedances 20 are adjustable loads or any type of impedance selection signal.

Finally, the Office Action has not shown how the combination of the Macnally and Sabouri reference suggest the claimed requirements. In fact, the combination teaches away from the claimed requirements by teaching different impedance networks and values for transmission and reception of signals and no description of an adjustable load or any type of impedance selection signal associated with an adjustable load such that impedance is substantially similar in the transmit mode and in the receive mode. When evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. In re Fine, 873 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Since the Office Action has failed to show how the Macnally reference and Sabouri reference teach or suggest all limitations of claim 16 or any of the claimed limitations of dependent claim 21, a prima facie case of obviousness has not been made.

For the above reasons, the rejections in the Final Office Action have omissions of one or more essential elements needed for a prima facie rejection. Therefore, it is respectfully requested that the rejection of the claims be withdrawn and full allowance granted. Should the Examiner have any further comments or suggestions, please contact Jessica Smith at (972) 240-5324.

Respectfully submitted,  
Garlick, Harrison & Markison

Dated: October 18, 2007

/Jessica W. Smith/

Jessica W. Smith  
Reg. No. 39,884

Garlick, Harrison & Markison  
P.O. Box 160727  
Austin, TX 78716-0727  
(972) 240-5324

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

**BP3274**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on \_\_\_\_\_

Signature \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Application Number

**10/802,014**

Filed

**03/16/2004**

First Named Inventor

**Razich Roufoogaran**

Art Unit

**2618**

Examiner

**Pablo N. Tran**

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

☐ attorney or agent of record.

Registration number \_\_\_\_\_

☒ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 **39,884****/Jessica W. Smith/**

Signature

**Jessica W. Smith**

Typed or printed name

**(972) 240-5324**

Telephone number

**10-18-2007**

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.

Submit multiple forms if more than one signature is required, see below.



\*Total of **1** forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.